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THIRD AND FOURTH INTERIM REPORTS

Contract No. DAJA45-87-C-0014

Since the Second Interim Report was submitted over a year ago (11 August 1987) this should be taken as a combination of the third and fourth interim reports. The final report will be supplied in early May, 1989, following the next full Panel Meeting.

The last full meeting of the European Advisory Panel was held at the time of the Mesometeorology Workshop at the Riso National Laboratory, Roskilde, Denmark. This meeting proposed that the next meeting be held at ASL in September 1988. In the event, however, on the initiative of ASL, this was postponed until April 10-14, 1989. In the meantime, the study of Project WIND data using the UK Meteorological Office mode' has been carried out under Contract DAJA45-87-C-0035 and a meeting was arranged at ASL in September, 14-16, 1988, to discuss the results and their implications for the modelling programme at ASL. This 'mini-conference', funded under the European Panel Contract was attended by Dr White, Professor Pearce, Dr Pinhas Alpert, Dr M Williams and members of ASL; a brief report of this meeting and its recommendations are attached.

Two further developments have occurred since the submission of the second interim report. The report of the Riso Workshop (copy attached) was edited by Professor Pearce and the printing was carried out at Riso under the supervision of Dr Leif Kristenson. It was published in November 1987 and has been distributed by ASL to several interested groups.

It is a pleasure to record that Dr Pielke of Colorado State University and Dr Walter Bach of the US Army Geosciences Division, Durham, NC have been appointed to membership of the panel.

14 October 1988

Professor R P Pearce

REPORT OF THE EUROPEAN ADVISORY PANEL 'MINI-CONFERENCE'

14-16 September 1988

HELD IN THE BLUE ROOM, PHYSICAL SCIENCES LABORATORY,

NMSU, LAS CRUCES

The main purpose of this conference was to review the results of the numerical experiments carried out so far on WIND data at the UK Meteorological Office (MO) and Los Alamos and examine their implications for future development of the mesoscale model heirachy at ASL. The opportunity was also used to brief the participants on the present status of validation and archiving of the field data from the four phases of the project; this was done on the first day by Dr Cionco and his ASL colleagues (see attached programme of the meeting).

The draft final report of the MO experiments and the conclusions drawn from these was presented by Professor Pearce and Dr Alpert on the second day, followed by a presentation by Dr M Williams of his recent results from SIGMET. Considerable discussion ensued following which a specific programme of modelling activities using SIGMET was agreed for Dr Williams and the ASL group to carry out over the next six months. It was agreed that these tasks should be completed before the model is used in an extensive series of integrations using WIND data for validation purposes:

1. Complete modification of the programme using the perturbation technique in order to substantially increase the time-step. (Dr M Williams).

2 Carry out minor adjustments of parameter values, based on UKMO model experiments and move the lowest level of the model to 10 m above the surface. (Dr M Williams).

3. Run SIGMET for both Phase 1 24-hour cycles and compare main features of its output with WIND observations

4 If results are satisfactory, document the SIGMET model in full detail.

5 Examine UKMO output (Experiment 4) and compare with SIGMET output for June 27/28 (u,v,w,T,radiation).

At the same time SIGTRA must be revised to interpolate sensible heat fluxes and 50 m winds (instead of surface temperatures and winds) for an input into VARYME . (Dr M Williams).

On completion of these tasks, the hierarchy should be run using the same sets of WIND data and outputs from HRW compared with observations.

Work on the objective analysis scheme already commenced by Mrs Zak-Rosenthal at Tel-Aviv should be completed. It is also desirable that an alternative scheme incorporating mass conservation be developed at ASL.

Work should also continue on development of procedures for representing the basic physics in the model using WIND data. This could proceed under Dr Alpert's supervision at Tel Aviv using the most advanced version of the NCAR/PENNSTATE model which is now operational there. An assistant may be available to carry on these studies from March 1989.

The proposed timetable for all of these activities is:

88	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	89
ASL	←Revision of SIGMET→			←SIGTRA→	←Hierarchy→ runs	Technical Assessment Meeting(ASL)		Panel Meeting	
					←SIGMET Documentation→	(Alpert, Pielke)			
Tel Aviv University	Objective analysis scheme → Examples of flow fields					← Model physics development			

The Panel Meeting provisionally arranged for April should go ahead. In addition to assessing progress on modelling and data processing it should pay special attention to the results from the AMADEUS experiment.

In order to achieve the rate of progress envisaged above it will be necessary for Dr Williams to be funded as a full-time consultant for 4-6 weeks during October and November 1988.

Professor R P Pearce